3. Common Misconceptions Regarding Energy Use

Misconception #1: It costs less to leave fluorescent lights on when leaving the room for a short period of time because it requires more energy to turn it back on. Therefore, leave your lights on to save money on your electric bill.

Reality: When you turn on a fluorescent light bulb (correctly called a "lamp"), there is a very brief jump in current when the ballast charges the cathodes and causes the lamp to start. This inrush of current can be many times greater than the normal operating current of the lamp. However, the spike of current draw normally lasts no longer than 1/10th of a second, and draws the equivalent of about 5 seconds of normal operation. So, if you turn your fluorescent lamp off and on more frequently than every 5 seconds, you will use more power than normal, otherwise you'll being saving energy.

Misconception #2: Turning fluorescent lamps off and on wears them out right away.

Reality: Electric lights have a published rating for expected life. This rating is in the hundreds of hours for many incandescent lights, and in the thousands of hours for most fluorescents. Fluorescent lights have a life rating based on how many hours they are left on every time they are turned on. This is usually referred to as "burn time", and for fluorescent lights the burn time is three hours.

Every time a fluorescent light is turned on, a tiny amount of the coating on the electrodes is burned off. Eventually, enough coating is burned off, and the lamp fails to start. Most full-size fluorescent lamps are rated to last 20,000 hours when left on for 3 hours every time they are turned on. This means that the lamp has roughly 6,667 starts available to use up. (20,000/3 = 6,667)

Misconception #3: Screen savers save energy.

Reality: Screen savers are energy wasters. Most computers use about twice as much energy lighting up the screen as they do for processing. Originally, screen savers were designed to stop screens being burnt by a constant image, but they are not needed for modern screens. Not only can screen savers use as much energy as a full screen of work, but many require considerable processing energy as well. If you want to save energy you can set your saver to 'none' or 'blank screen'. If you want to use your screen saver in conjunction with monitor power management, set the screen saver "wait time" to less than the period of inactivity before the monitor shuts off automatically.

Misconception #4: Turning a computer off each day is bad for the computer system and shortens the life of the equipment.
Reality: Contrary to popular belief, turning on and off the computer doesn't shorten its life. The belief that frequent shutdowns of PCs are harmful persists from the days when hard disks did not automatically park their heads when shut off; frequent on-off cycling could damage such hard disks. Modern hard disks are not significantly affected by frequent shut-downs. Shutting down computers at night and on weekends saves significant energy without affecting the performance. If you are going to be away from the computer for several hours, turn it off. Leaving a computer on overnight may not use a lot of electricity, especially if your computer and monitor support the "Energy Saver" features that are standard on most new computers. But make no mistake, over the course of months and years, quite a lot of electricity is wasted. It's probably okay to put your PC in a "sleep" mode during the day, but it's best to turn it off during

evenings and weekends. This allows the database to restart during the next turn-on allowing startup to correct any problems that may have occurred during the operating day.

Misconception #5: Turning the heat down (or cooling up) at night does not save energy, since you have to heat the building back up (or cool down) again the next morning.
Reality: Heating and cooling uses more energy and drains more energy dollars than any other system in your school. Typically, over 1/3 of your utility bill goes for heating and cooling. Heating and cooling systems in the United States together emit over a half billion tons of carbon dioxide into the atmosphere each year, adding to global warming. They also generate about 24% of the nation's sulfur dioxide and 12% of the nitrogen oxides, the chief ingredients in acid rain. By turning down the thermostat at night you will generally save 1%-2% of your heating bill for each degree lowered.

Misconception #6: Periodic inspection and tune-up of heating, ventilating and air conditioning systems is a waste of money.
Reality: As they say in medicine, prevention is nine tenths of the cure, and with building maintenance, the same holds true. Preventative maintenance can save you time and money in the long run. The maintenance department is one of the greatest levers of profitability for any capital intensive organization. Maintenance is often an organization's largest single controllable expense. Preventative maintenance is essential to prevent an energy system from using more energy than necessary; keep the system effective in doing its intended job; prevent problems that can lead to reduction in productivity; and help prevent early equipment failure.
Staff training on common maintenance and repair items is also time and money well spent. Preventative maintenance software programs, including PM checklists and work order forms are available to assist in implementing preventative maintenance.

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